

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
William A. Hinton State Laboratory Institute
305 South Street, Jamaica Plain, MA 02130

DEVAL L. PATRICK
GOVERNOR

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COMMISSIONER

Kevin Santos, ADA

Suffolk County District Attorney's Office
Dorchester Court
By e-mail

April 18, 2011

Re: Comm. v. [REDACTED] State Lab no. [REDACTED]

ADA Santos,

Please find enclosed a discovery packet for the case noted above. The material is collated in the following manner:

- 1) the chemist's c.v.'s
- 2) the drug receipt to the Boston Police
- 3) inventory control card for the submission
- 4) the bench notes on the "Pharmaceutical Analysis Sheet"
- 5) the text reference from the pharmacopeia
- 6) the gas chromatography/mass spectrometry (gc/ms) data

I was the custodial chemist for the submission, accountable for the integrity of the sample, the weight determination and the preliminary analysis. Kate Corbett was the confirmatory chemist with the instrumental analysis on gc/ms.

If you need further clarification of this material, please call me directly at (617) 983-6627.

Sincerely,

Michael Lawler
Senior Chemist

Cc: Charles Salemi, Kate Corbett

Curriculum Vitae

Michael Lawler

Education:

University of Virginia, Charlottesville, Va. Bachelor of Arts in English, 1975

Harvard University, Cambridge, Ma. Master of Arts in biology, 1995

Experience:

1990-present currently Chemist III, Mass. Dept. of Public Health, Drug Lab analyst determining the identity of unknown substances and providing expert testimony in the Courts. Conduct special testing for poisons within drug exhibits. Lab Safety Officer.

2005-2008 lecturer in chemistry, Curry College, Milton, Ma.

1988-1990 New England Newborn Screening (NENS) Biochemist conducting pilot studies and validation trials of new newborn screening tests. Investigator and co-author of papers noted below. Introduced screening test for Biotinidase Deficiency. Liaison with interstate collaborators in national studies.

1983-1988 Supervised NENS urine screening lab for metabolic disorders. Conducted research in collaboration with Children's Hospital (Boston) detecting neuroblastoma, a cancer of early childhood. Conducted reference testing for rare metabolic disorders for an international audience.

1982-1983 NENS hypothyroid assay technologist with Tuft's University

1979-1981 Mass. Bay Community College, staff technologist preparing materials for the laboratory technician program, which included reagents, apparatus and maintaining stock cultures of human pathogens.

Additional education and special training

Drug Analysis, completed six week training course by senior staff within the Department of Public Health Drug Analysis Laboratory

National Laboratory Network Training Program course as Expert Witness

Qualified as an expert witness in the Massachusetts Courts and the U.S. District Court

Current Drug Trends – Multijurisdictional Drug Task Force Academy

CDC course in antibiotic resistance CDC course in cell culture

CDC course in public health response to bioterrorism

U.S. Army course in biologic warfare and terrorism

Journal Publications

Screening, 1992, 1:34-37; Lawler,M., Frederick,S., Rodriguez-Anza, S.,Wolf,B., Levy,H., *Newborn Screening for Biotinidase Deficiency, Pilot Study and Follow-up of Identified Cases*

Genetic Screening, 1990, 11-18, Mitchell,M., Lawler,M., Walraven,C., Hermos,R., *To Screen or Not to Screen for Congenital Hyperplasia: Is that the Question?*

The Journal of Pediatrics, 116: 78-83, Secor-McVoy,J., Lawler,M., Schmidt, M., Ebers,D., Hart,P., Pettit,D., Blitzer,M., Wolf,B., *Partial Biotinidase Deficiency: Clinical and Biochemical Features*

Professional Affiliations

Northeastern Association of Forensic Scientists (NEAFS) since 2005

Awards

Theobald Smith Education Grant for graduate studies

Curriculum Vitae

Kate A. Corbett

Education

Bachelor of Science Degree, CHEMISTRY May 2003

MERRIMACK COLLEGE

Coursework included: Organic Chemistry, Inorganic Chemistry, Quantitative Analysis, Instrumental Analysis, Physical Chemistry, Physics, Calculus

Employment

Chemist II State Laboratory Institute (March 2008-Present)

Massachusetts Department of Public Health

Drug Analysis Laboratory

- Responsible for the identification of substance and trafficking substances to determine violation of the Massachusetts drug laws
- Responsible for the identification of pharmaceuticals to determine violation of the Massachusetts drug laws
- Operate analytical instrumentation, microscopes and balances for forensic drug analysis

Chemist I State Laboratory Institute (2005-March 2008)

Massachusetts Department of Public Health

Drug Analysis Laboratory

- Responsible for the identification of substance to determine violation of the Massachusetts drug laws
- Operate analytical instrumentation for the purpose of performing forensic drug analysis
- Successfully completed an eight week training course in the analysis of drugs conducted by senior staff of the Department of Public Health, Drug Analysis Laboratory
- Appointed an assistant analyst for the Department of Public Health, Drug Analysis Laboratory in 2005

Research Associate (September 2003 - August 2005)

SENSOR TECHNOLOGIES, INC. - Shrewsbury, MA

- Prepared chemistries used in making sensor beads
- Generated and examined sensors employing fluorescence spectroscopy
- Performed protein, dye and sugar assays using UV/VIS spectrophotometry
- Carried out titrations on ricin using fluorescence correlation spectroscopy
- Statistical analysis of experimental data

Intern (March 2003 - August 2003)

MASSACHUSETTS STATE POLICE CRIME LABORATORY - Sudbury, MA

- Assisted in the gathering of case files to fulfill the National Institute of Justice's No Suspect Backlog Reduction Grant
- Observed in the Evidence, Criminalistics, DNA, Drug, Trace, Toxicology, and Bomb/Arson Units

DRUG RECEIPT

CC #

BOOK #

72

PAGE #

60

DESTRUCTION #

District/Unit

B-3/C(1010)

Name & Rank of Arresting Officer

P.O. Conley / P.O. St. Peter

ID#

85575 / 108891

DEFENDANT'S NAME

ADDRESS

CITY

STATE

DESCRIPTION OF ITEMS SUBMITTED

GROSS
QUANTITYGROSS
WEIGHT

LAB USE ONLY

ANALYSIS
NUMBER

Morphine Blue

4 pills

4.33g

To be completed by ECU personnel only

Name and Rank of Submitting Officer

Diana Lopez
ELO

ID#

9370

Received by

Date

11-19-10

ECU Control #

No. [REDACTED]

Date Analyzed: 2/10/11

City: Boston D.C.U. Police Dept.

Officer: P.O. Diana Lopez

Def: [REDACTED]

Amount: 4.0g

Subst: TAB

No. Cont: 1 Cont: pb

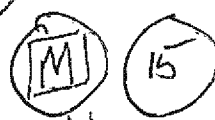
Date Rec'd: 11/19/2010

Gross Wt.: 4.33g

No. Analyzed: 1

Net Weight: 0.60g

Tests: 2 (initials)



11-17 Prelim: morphine blue

Findings: Morphine

GE/M8
DOZ0911-5

11-17

Sample # [redacted] Boston Dai E.O. weight 4.33

Count 4 Description:

Ballistic I.D. morphine

I.D. Source micromedex

Final I.D. morphine

MS chemist

KAC

completed

2-10-11



blue

0.5 tab

MeOH

net = 0.6085

g/mo (4)

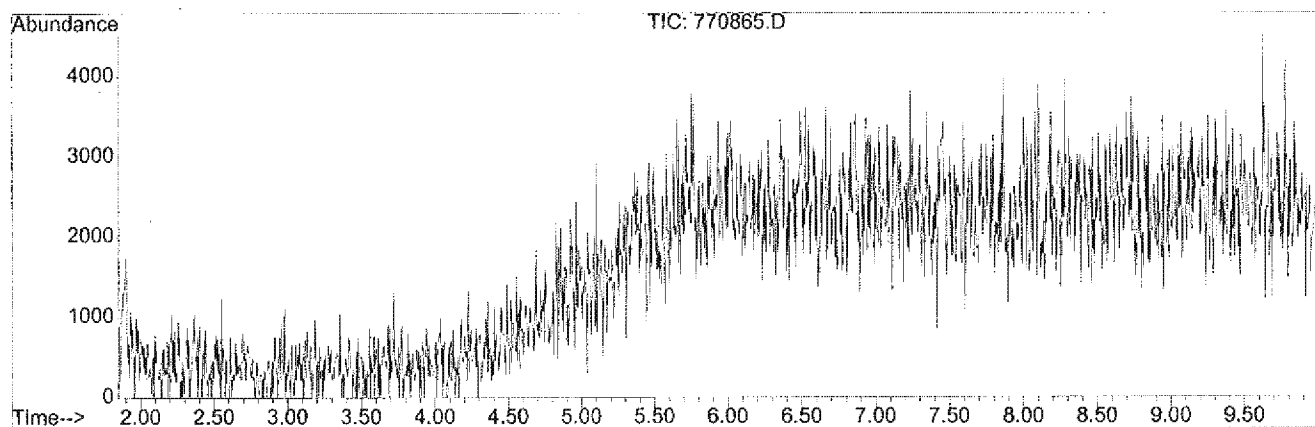
POISINDEX® Product List**Morphine Sulfate****Regulatory-Status:** Schedule II**Ingredients****Active-Ingredient:** Morphine Sulfate - 15 MG**Excipients:** Polydextrose
Silicon Dioxide
Titanium Dioxide
Triacetin
hydroxypropyl methylcellulose
lactose monohydrate
Magnesium Stearate
Polyethylene Glycol**Availability & Manufacturing****Availability:** United States**Available-Container-Sizes:** Ten 2 x 5 Blister Cards; Bottle of 100; Bottle of 500**Contact:** Covidien Mallinckrodt**Product ID:** 6464500**AAPCC Code:** 037704 - Morphine**Registry Numbers:** NDC 0406-8315-62
NDC 0406-8315-01
NDC 0406-8315-05**Physical Description****Imprints:** M - The M enclosed in a box is imprinted on one side and 15 on the reverse side.
15**Alt Imprints:** M15 - The M enclosed in a box is imprinted on one side and 15 on the reverse side.
M 15**Form:** Oral Tablet, Extended Release**Color:** Blue**Shape:** Circle

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4/18/11 M82

Information from Data File:

File Name : D:\SYSTEM4\02_09_11\770865.D
Operator : SLD
Date Acquired : 10 Feb 2011 00:48
Sample Name : BLANK
Submitted by :
Vial Number : 2
AcquisitionMeth: WDRUGS
Integrator : RTE



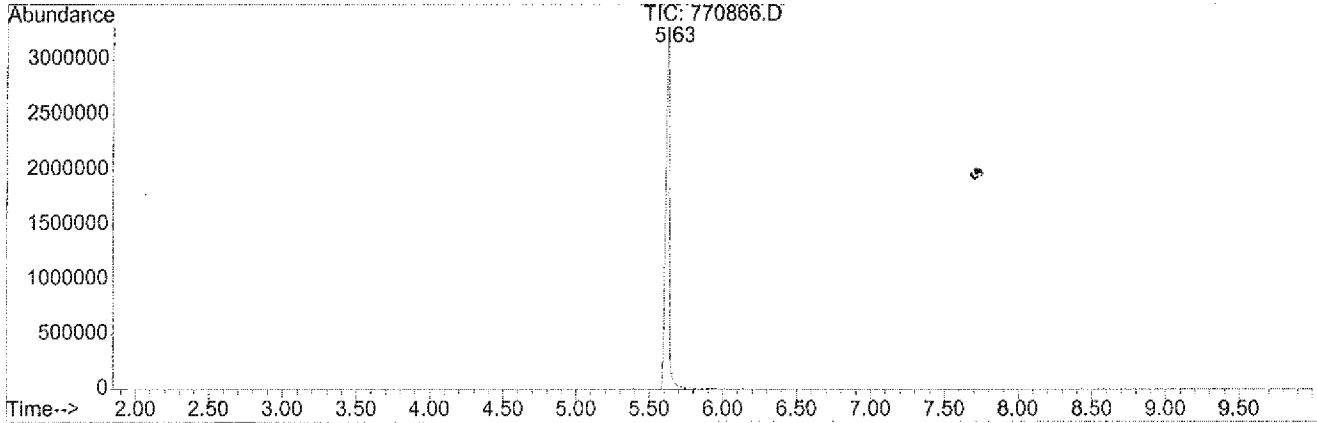
| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

NO INTEGRATED PEAKS

Area Percent / Library Search Report

Information from Data File:

File Name : D:\SYSTEM4\02_09_11\770866.D
 Operator : SLD
 Date Acquired : 10 Feb 2011 1:02
 Sample Name : MORPHINE STD
 Submitted by :
 Vial Number : 66
 AcquisitionMeth: WDRUGS
 Integrator : RTE



| Ret. Time | Area | Area % | Ratio % |
|-----------|---------|--------|---------|
| 5.627 | 5733902 | 100.00 | 100.00 |

Area Percent / Library Search Report

Information from Data File:

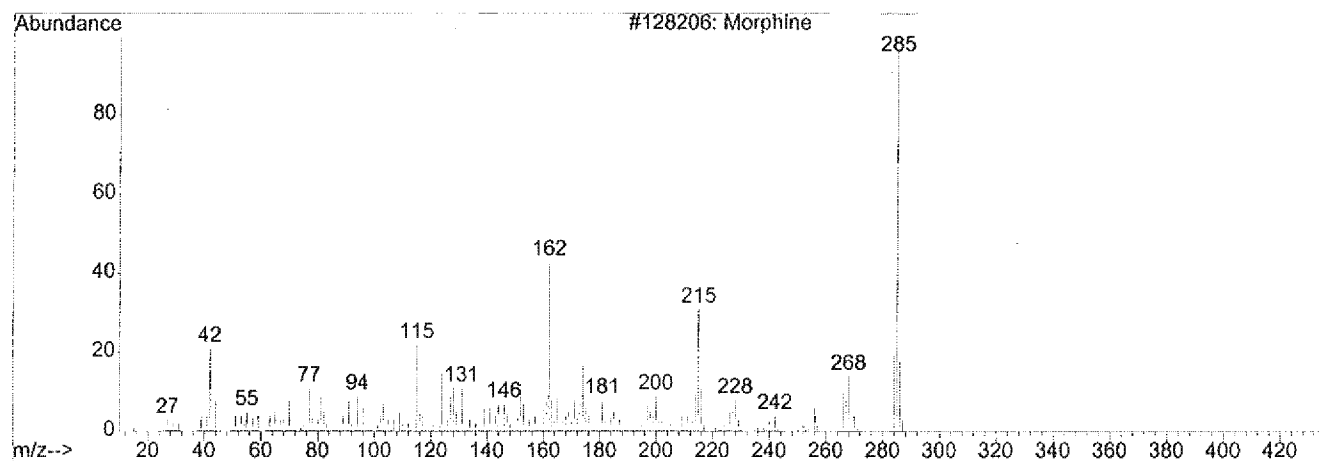
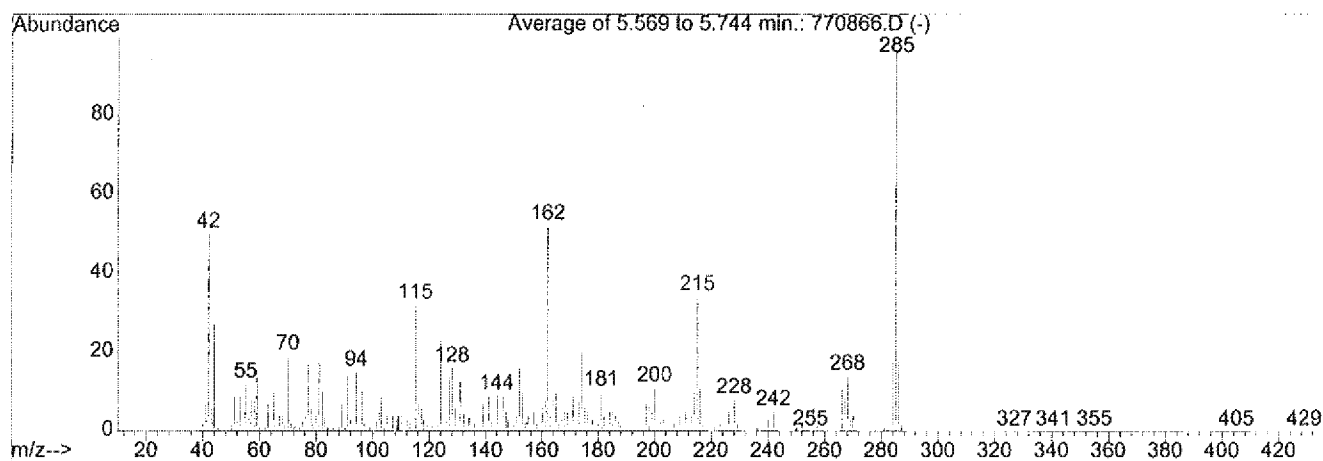
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File Name       : D:\SYSTEM4\02_09_11\770866.D
Operator        : SLD
Date Acquired   : 10 Feb 2011   1:02
Sample Name     : MORPHINE STD
Submitted by    :
Vial Number     : 66
AcquisitionMeth : WDRUGS
Integrator      : RTE
  
```

```

Search Libraries: C:\DATABASE\SLI.L           Minimum Quality: 90
                  C:\DATABASE\PMW_TOX2.L      Minimum Quality: 90
                  C:\DATABASE\NIST98.L
  
```

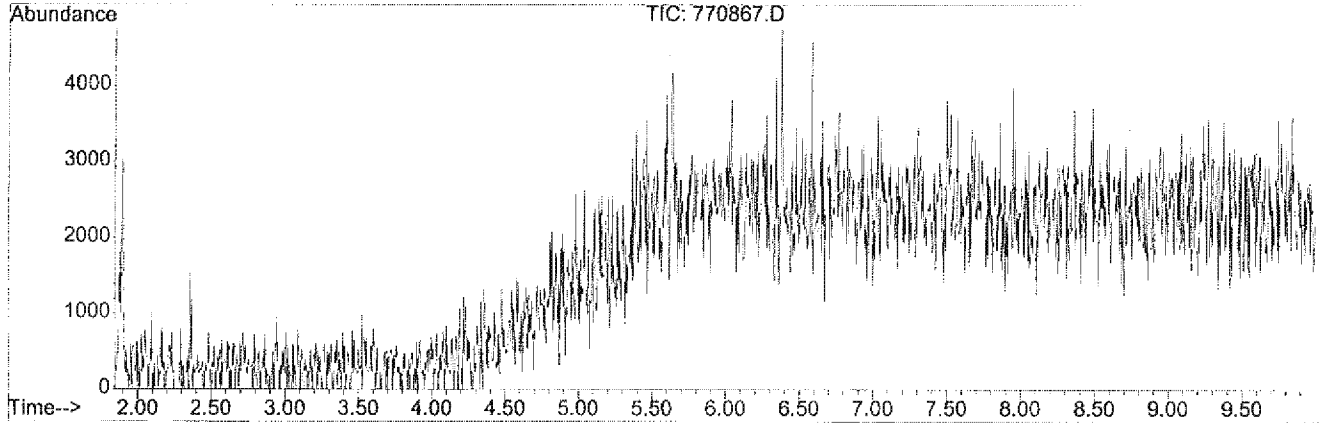
| PK# | RT | Library/ID | CAS# | Qual |
|-----|------|----------------------|-------------|------|
| 1 | 5.63 | C:\DATABASE\NIST98.L | | |
| | | Morphine | 000057-27-2 | 99 |
| | | Morphine | 000057-27-2 | 99 |
| | | Morphine | 000057-27-2 | 99 |



Area Percent / Library Search Report

Information from Data File:

File Name : D:\SYSTEM4\02_09_11\770867.D
Operator : SLE
Date Acquired : 10 Feb 2011 1:16
Sample Name : BLANK
Submitted by :
Vial Number : 2
AcquisitionMeth: WDRUGS
Integrator : RTE



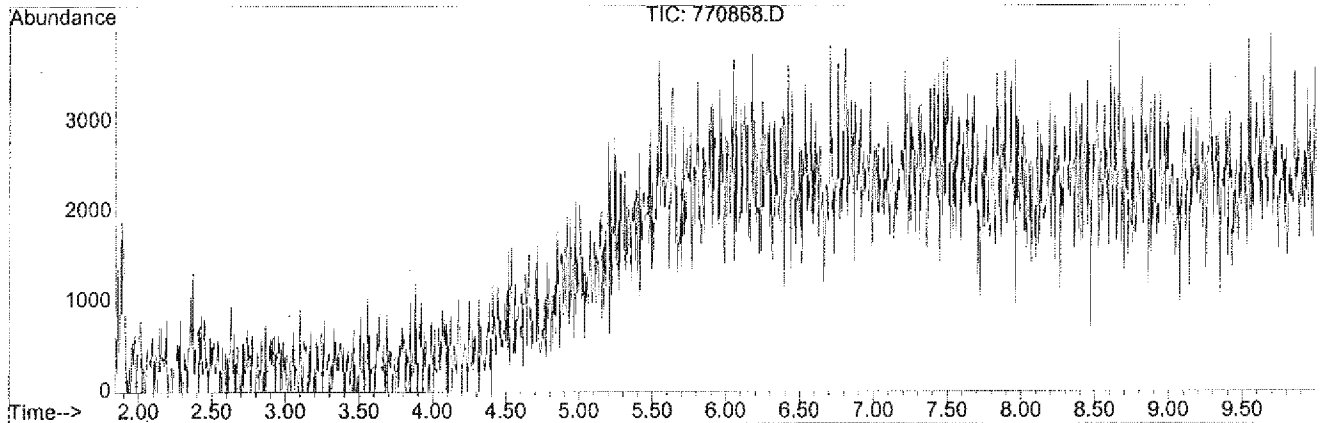
| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

NO INTEGRATED PEAKS

Area Percent / Library Search Report

Information from Data File:

File Name : D:\SYSTEM4\02_09_11\770868.D
Operator : SLD
Date Acquired : 10 Feb 2011 1:30
Sample Name : BLANK
Submitted by : MGL
Vial Number : 2
AcquisitionMeth: WDRUGS
Integrator : RTE



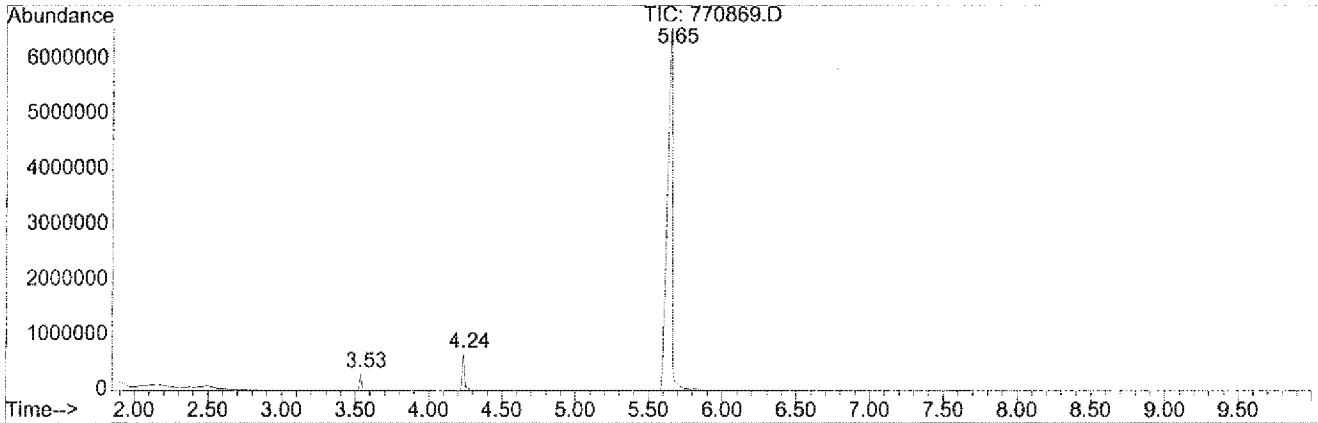
| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

NO INTEGRATED PEAKS

Area Percent / Library Search Report

Information from Data File:

File Name : D:\SYSTEM4\02_09_11\770869.D
 Operator : SLD
 Date Acquired : 10 Feb 2011 1:44
 Sample Name : XXXXXXXXXX
 Submitted by : MGL
 Vial Number : 69
 AcquisitionMeth: WDRUGS
 Integrator : RTE



| Ret. Time | Area | Area % | Ratio % |
|-----------|----------|--------|---------|
| 3.534 | 336637 | 1.95 | 2.09 |
| 4.237 | 796729 | 4.62 | 4.94 |
| 5.649 | 16116987 | 93.43 | 100.00 |

Area Percent / Library Search Report

Information from Data File:

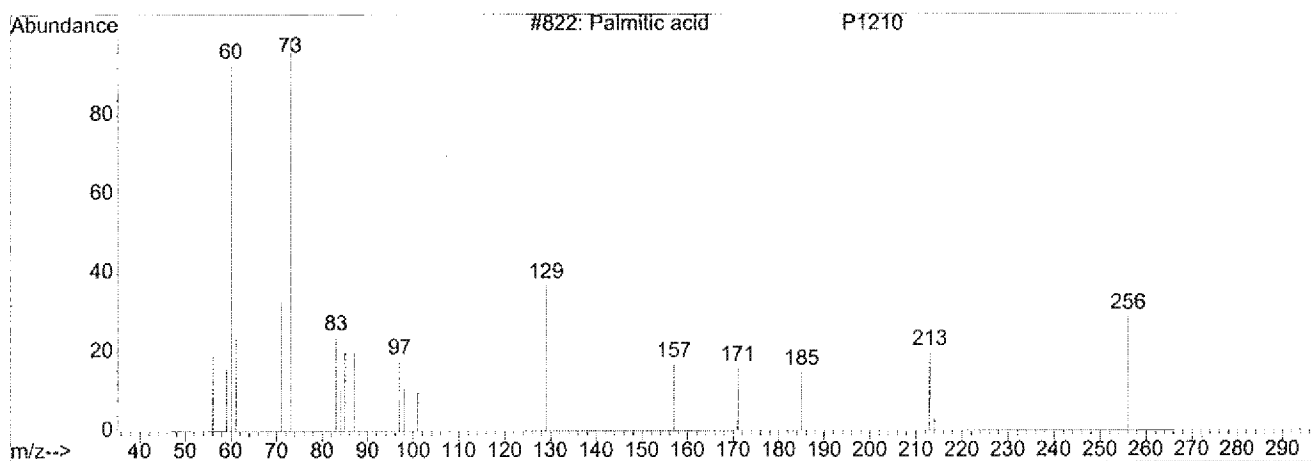
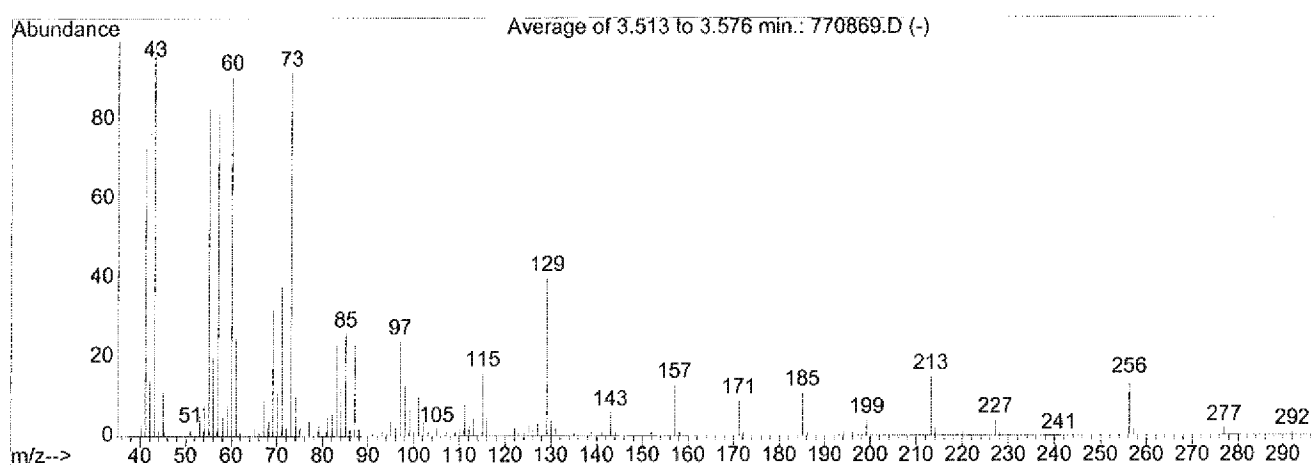
```

File Name       : D:\SYSTEM4\02_09_11\770869.D
Operator        : SLD
Date Acquired   : 10 Feb 2011   1:44
Sample Name     : ██████████
Submitted by    : MGL
Vial Number     : 69
AcquisitionMeth : WDRUGS
Integrator      : RTE
  
```

```

Search Libraries: C:\DATABASE\SLI.L           Minimum Quality: 90
                  C:\DATABASE\PMW_TOX2.L      Minimum Quality: 90
                  C:\DATABASE\NIST98.L
  
```

| PK# | RT | Library/ID | CAS# | Qual |
|-----|------|------------------------------|-------------|------|
| 1 | 3.53 | C:\DATABASE\PMW_TOX2.L | | |
| | | Palmitic acid | 000057-10-3 | 94 |
| | | Myristic acid | 000544-63-8 | 64 |
| | | Diethylene glycol dipivalate | 000000-00-0 | 4 |



Area Percent / Library Search Report

Information from Data File:

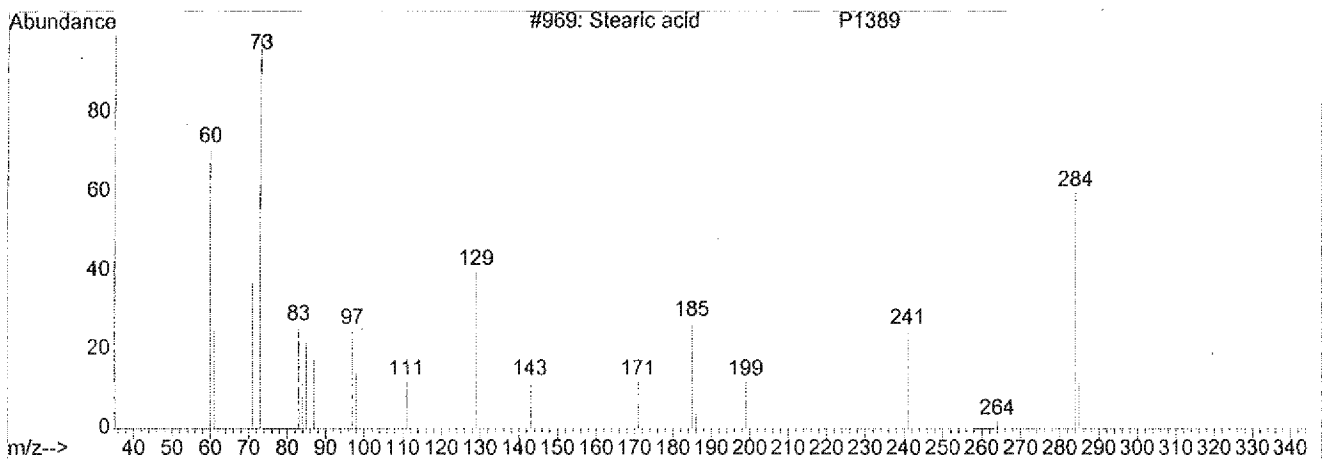
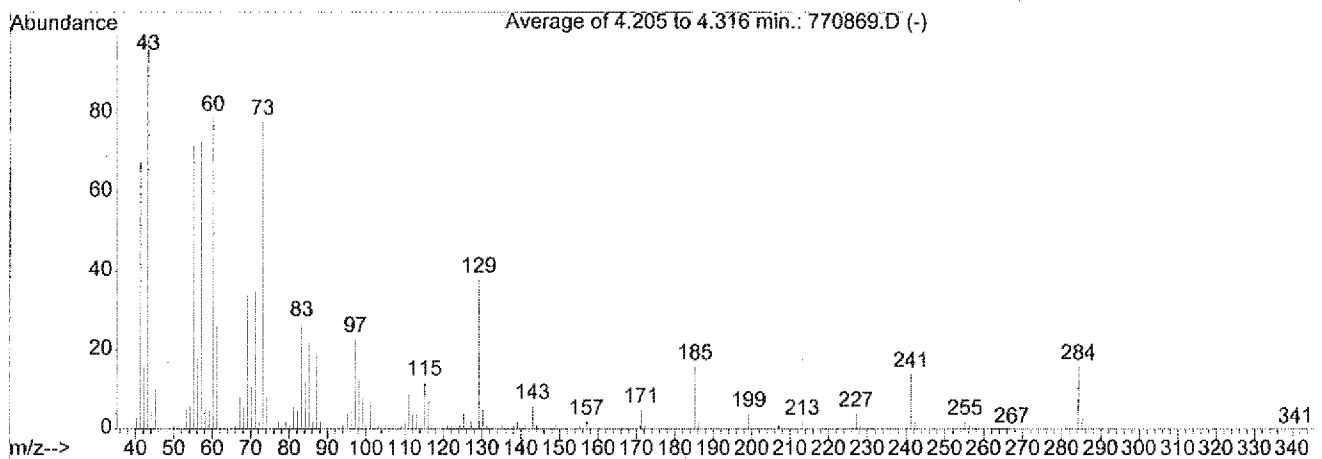
```

File Name       : D:\SYSTEM4\02_09_11\770869.D
Operator        : SLD
Date Acquired   : 10 Feb 2011   1:44
Sample Name     : 
Submitted by    : MGL
Vial Number     : 69
AcquisitionMeth : WDRUGS
Integrator      : RTE
  
```

```

Search Libraries: C:\DATABASE\SLI.L           Minimum Quality: 90
                  C:\DATABASE\PMW_TOX2.L      Minimum Quality: 90
                  C:\DATABASE\NIST98.L
  
```

| PK# | RT | Library/ID | CAS# | Qual |
|-----|------|------------------------|-------------|------|
| 2 | 4.24 | C:\DATABASE\PMW_TOX2.L | | |
| | | Stearic acid | 000057-11-4 | 92 |
| | | Myristic acid | 000544-63-8 | 68 |
| | | Acetic acid | 000064-19-7 | 5 |



Area Percent / Library Search Report

Information from Data File:

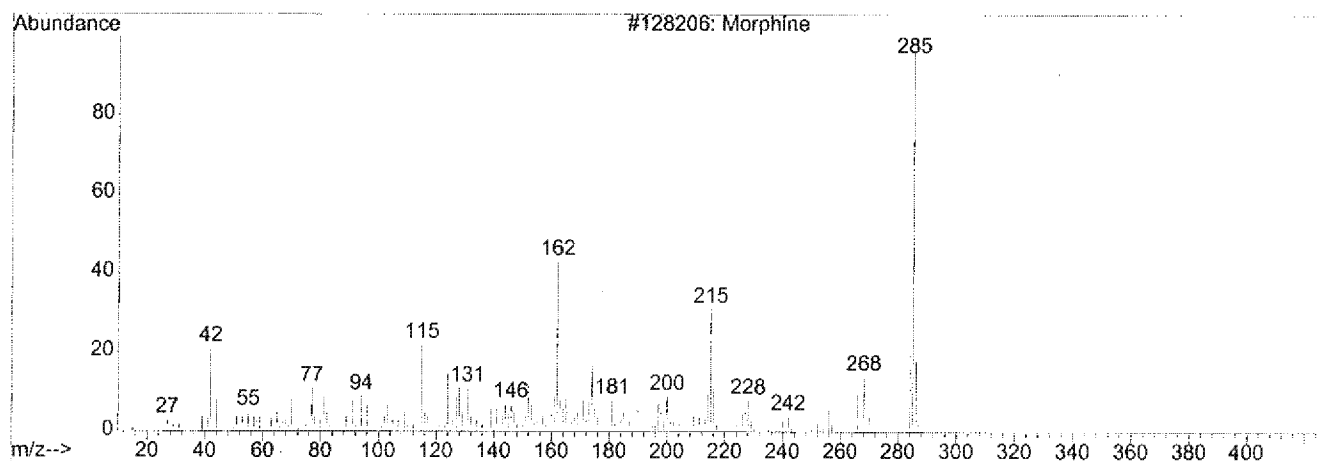
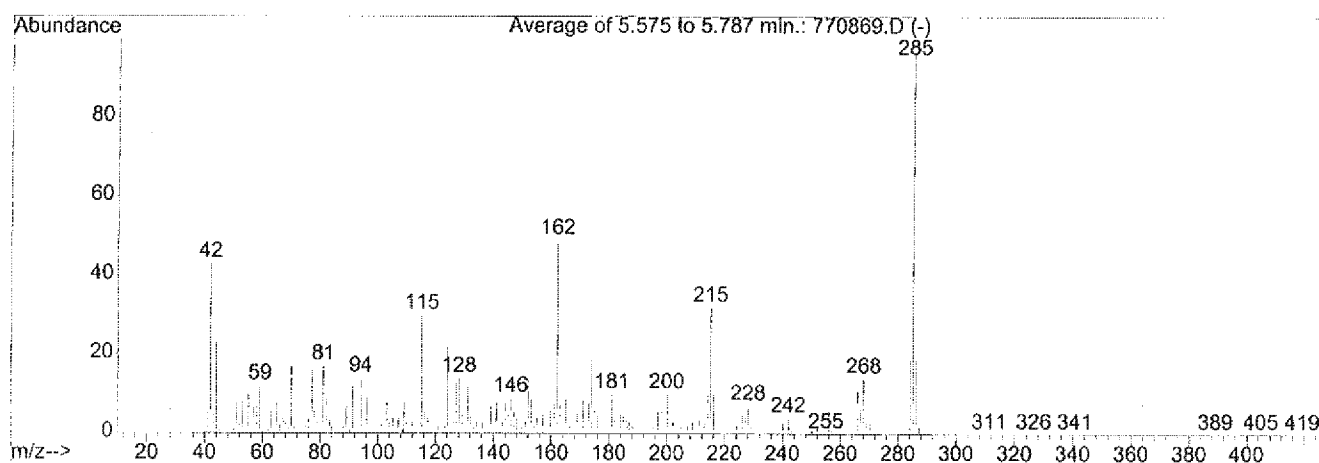
```

File Name       : D:\SYSTEM4\02_09_11\770869.D
Operator        : SLD
Date Acquired   : 10 Feb 2011   1:44
Sample Name     : 
Submitted by    : MGL
Vial Number     : 69
AcquisitionMeth : WDRUGS
Integrator      : RTE
  
```

```

Search Libraries: C:\DATABASE\SLI.L           Minimum Quality: 90
                  C:\DATABASE\PMW_TOX2.L      Minimum Quality: 90
                  C:\DATABASE\NIST98.L
  
```

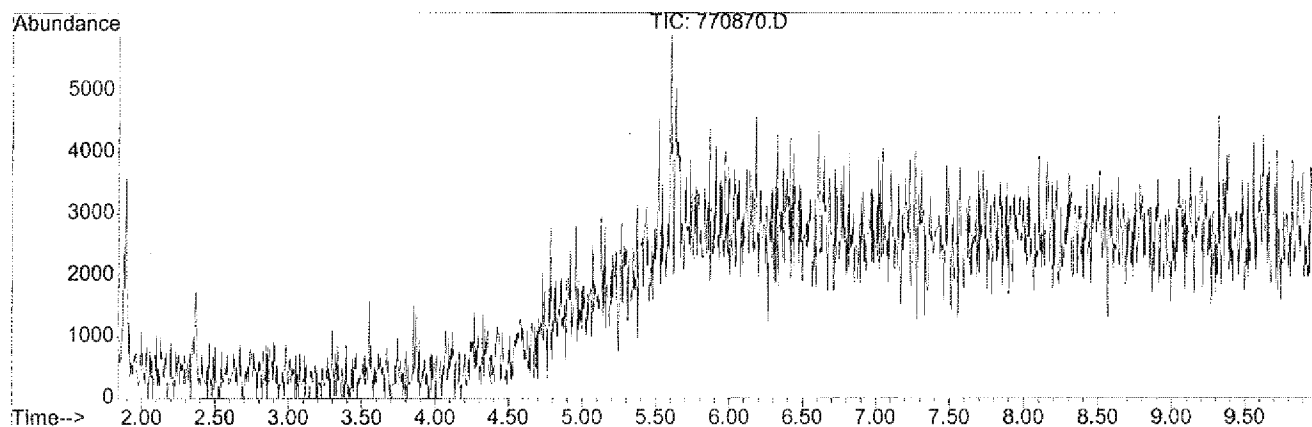
| PK# | RT | Library/ID | CAS# | Qual |
|-----|------|----------------------|-------------|------|
| 3 | 5.65 | C:\DATABASE\NIST98.L | | |
| | | Morphine | 000057-27-2 | 99 |
| | | Morphine | 000057-27-2 | 99 |
| | | Morphine | 000057-27-2 | 99 |



Area Percent / Library Search Report

Information from Data File:

File Name : D:\SYSTEM4\02_09_11\770870.D
Operator : SLD
Date Acquired : 10 Feb 2011 1:57
Sample Name : BLANK
Submitted by : MGL
Vial Number : 2
AcquisitionMeth: WDRUGS
Integrator : RTE



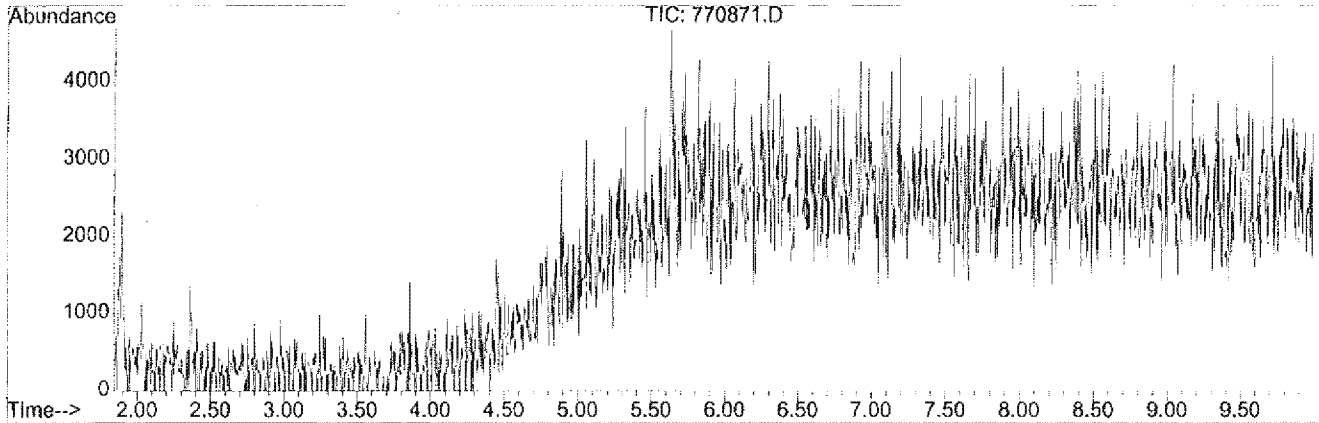
| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

NO INTEGRATED PEAKS

Area Percent / Library Search Report

Information from Data File:

File Name : D:\SYSTEM4\02_09_11\770871.D
Operator : SLD
Date Acquired : 10 Feb 2011 2:11
Sample Name : BLANK
Submitted by :
Vial Number : 2
AcquisitionMeth: WDRUGS
Integrator : RTE



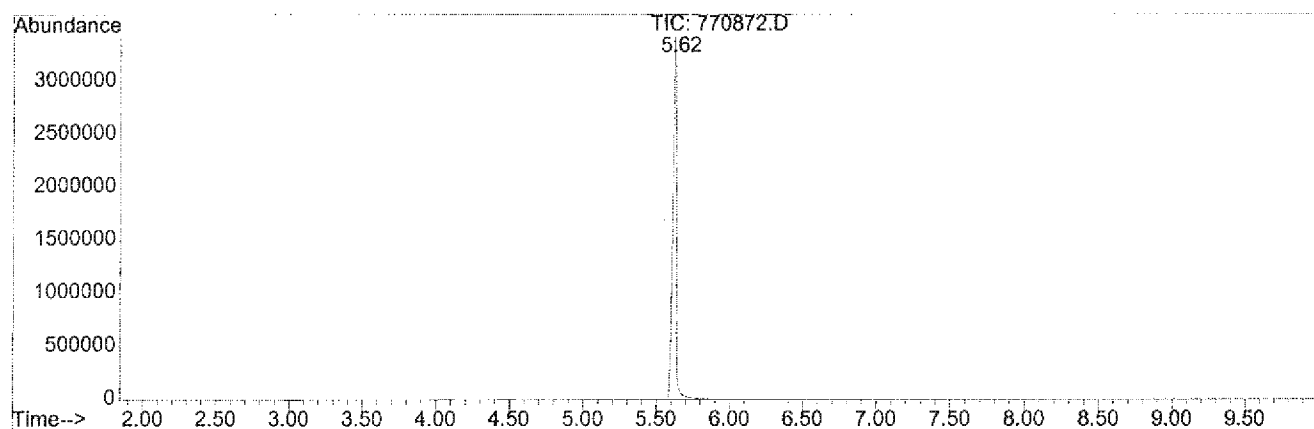
| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

NO INTEGRATED PEAKS

Area Percent / Library Search Report

Information from Data File:

File Name : D:\SYSTEM4\02_09_11\770872.D
 Operator : SLD
 Date Acquired : 10 Feb 2011 2:25
 Sample Name : MORPHINE STD
 Submitted by :
 Vial Number : 66
 AcquisitionMeth: WDRUGS
 Integrator : RTE



| Ret. Time | Area | Area % | Ratio % |
|-----------|---------|--------|---------|
| 5.620 | 5665300 | 100.00 | 100.00 |

Area Percent / Library Search Report

Information from Data File:

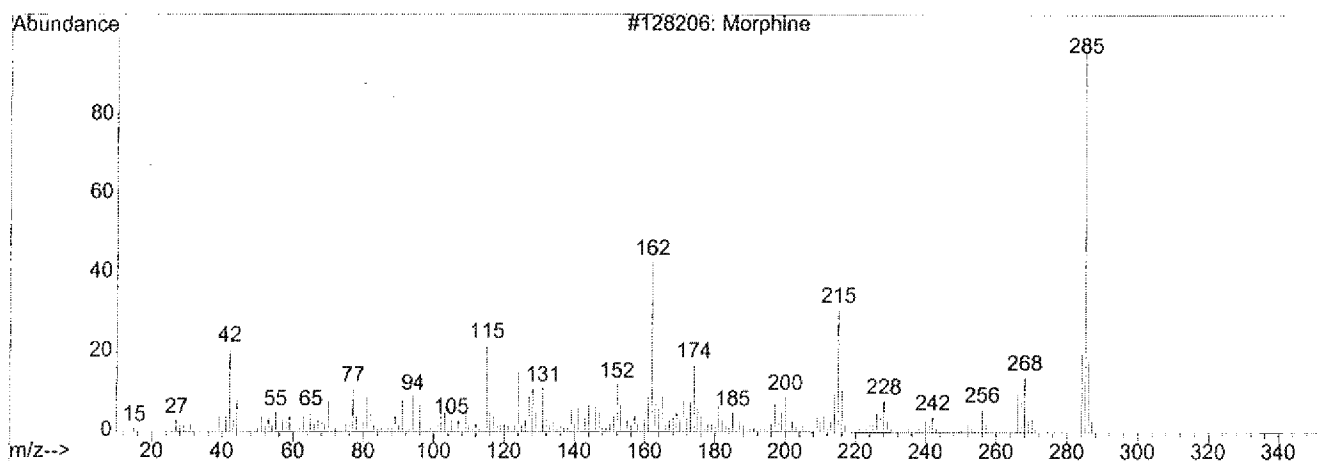
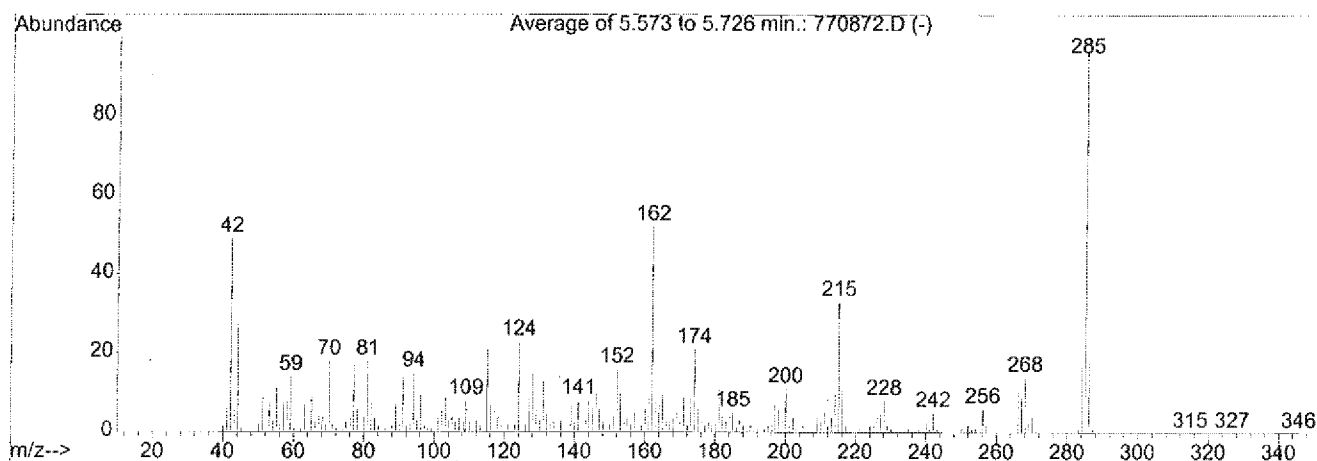
```

File Name       : D:\SYSTEM4\02_09_11\770872.D
Operator        : SLD
Date Acquired   : 10 Feb 2011   2:25
Sample Name     : MORPHINE STD
Submitted by    :
Vial Number     : 66
AcquisitionMeth : WDRUGS
Integrator      : RTE
  
```

```

Search Libraries: C:\DATABASE\SLI.L           Minimum Quality: 90
                  C:\DATABASE\PMW_TOX2.L      Minimum Quality: 90
                  C:\DATABASE\NIST98.L
  
```

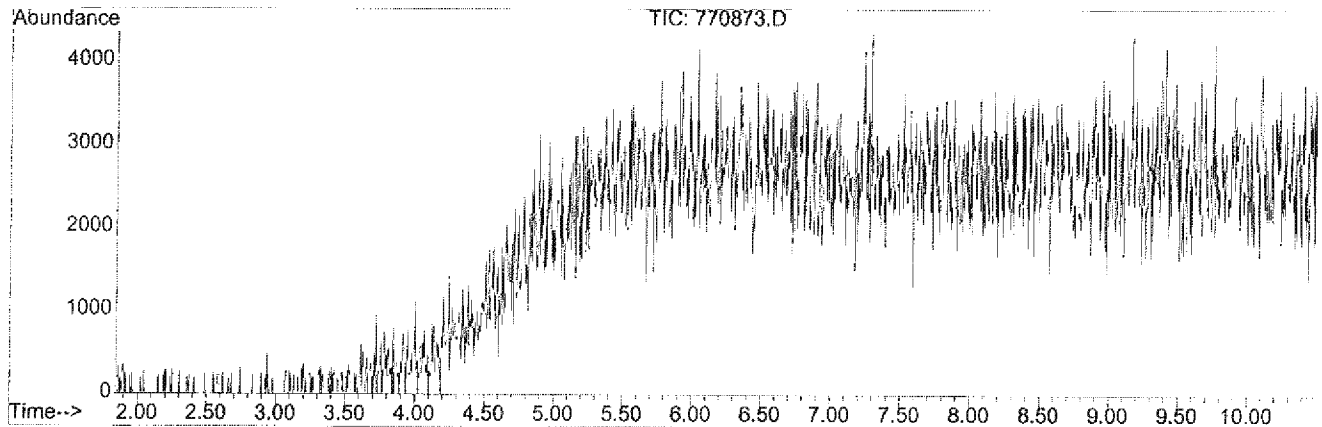
| PK# | RT | Library/ID | CAS# | Qual |
|-----|------|----------------------|-------------|------|
| 1 | 5.62 | C:\DATABASE\NIST98.L | | |
| | | Morphine | 000057-27-2 | 99 |
| | | Morphine | 000057-27-2 | 99 |
| | | Morphine | 000057-27-2 | 99 |



Area Percent / Library Search Report

Information from Data File:

File Name : D:\SYSTEM4\02_09_11\770873.D
Operator : SLD
Date Acquired : 10 Feb 2011 2:38
Sample Name : BLANK
Submitted by :
Vial Number : 2
AcquisitionMeth: CLONAZ
Integrator : RTE



| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

NO INTEGRATED PEAKS

Last page.....no further data